

Cambridgeshire County Council.



ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

Administrative County of Cambridge

For the Year 1918.

Cambridge.

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INDEX.

	Page
Bacteriological Diagnosis	...
Birth Rate	...
Cancer	...
Cerebro-Spinal Fever	...
Child Welfare, Maternity and	...
Death Rate	...
Diarrhoeal Diseases	...
Diphtheria	...
Drainage, Sewerage, and Refuse Disposal	...
Enteric Fever	...
Erysipelas...	...
Food and Drugs Acts, Sale of	...
Food, Inspection of Unsound	...
Housing of the Working Classes	...
Illegitimacy	...
Infantile Mortality	...
Infectious Disease	...
Influenza	...
Isolation Hospitals	...
Measles	...
Mental Deficiency Act, 1913	...
Midwifery Service, Grant for	...
Midwives Acts	...
Milk	...
Notification of Births Acts	...
Nuisances	...
Ophthalmia Neonatorum	...
Pneumonia	...
Poliomyelitis, Acute	...
Population	...
Puerperal Fever...	...
Sanitary Inspection	...
Scarlet Fever	...
Schools	...
Shelters, Open-air	...
Small-pox...	...
Stillbirths	...
Tuberculosis	...
After-care Association	...
" Colony	...
" Dispensary...	...
" Sanatorium Treatment	...
" Statistics	...
Vaccination	...
Venereal Diseases	...
Vital Statistics	...
Water Supply	...
Whooping Cough	...



GENERAL SANITATION.

The shortage of staff, labour, and materials, has again prevented any schemes of importance from being developed by the Local Sanitary Authorities.

Water Supply.—There has been a further postponement of the completion of the scheme of supply by the Cambridge University and Town Waterworks Company from a new site to Cambridge Borough and seven adjoining parishes in the Chesterton Rural District. It is anticipated that the scheme will be finally proceeded with in 1920.

The reports on the Rural Districts refer to minor matters only.

Sewerage, Drainage and Refuse Disposal.—In Chesterton Rural District the sewerage works in connection with the factory at Histon have now been completed. This should remove grounds for complaint as to pollution of the stream which flows through the village.

Nuisances and Sanitary Inspection.—No accurate statement can be furnished from the District reports, but I am satisfied that the reduced staff of Sanitary Inspectors have done their utmost, under difficult conditions, to cope with the work, including inspection of premises, remedy of nuisances, and measures for prevention of spread of infection. Those Inspectors who were called up for military service have now returned to their posts, and have considerable arrears of work to overtake. It is therefore important that no sanitary district should continue without its full staff, as is the case with the Newmarket Rural District, whose Council are continuing to borrow the services of the Inspector of an adjoining District, for their population of approximately 20,000 persons.

Housing of the Working Classes.—The same conditions prevailed as in previous war years, viz., cessation of building operations and great difficulty in obtaining labour and materials for necessary repairs. Reports furnished by the County Council's Health Visitors, which are communicated to the Local Sanitary Authorities, afford abundant evidence of dilapidation of property and of overcrowding; in some cases the reference results in remedy, but in many others it does not. When the numerical deficiency of houses has been remedied there will undoubtedly remain a large number of houses to be replaced which are at present occupied, though unfit for occupation and incapable of being rendered habitable.

The more recent estimates furnished by the Local Sanitary Authorities to the Local Government Board of the number of new houses required have not been communicated to the County Council. In their annual reports the Medical Officers of Health quote estimates of 210 houses in 16 parishes in Newmarket Rural District, 167 houses in 15 parishes in Linton Rural District, and 250 houses in Cambridge Borough. Dr. Laird observes that the latter estimate is a low one, and draws attention to the fact that the average number of new houses built annually from 1901 to 1914 was 179, the inference as to results of any delay in the preparation of housing schemes being obvious. The financial aspect is of course serious, but the influence of the existing conditions on the health and morals of the community, with their resultant social and economic outlook, is no less so, and it is clearly the duty of the Local Authorities to review these factors and decide which way their obligation lies.

In default of prompt action by the Local Authorities it is evident that the Government may transfer housing functions to other hands, and in this connection reference may be made to the reconstruction scheme recently pre-

sented to and approved by the County Council, who, it may be observed, have at present under consideration the question of housing of their head teachers, police and roadmen. The recommendations approved are briefly as follows:—

(1) The housing powers and responsibilities of the lesser Local Sanitary Authorities should be transferred to the County Council, whose various large treatment schemes in connection with maternity and child welfare, tuberculosis, mental deficiency, etc., are materially prejudiced by existing housing conditions.

(2) An independent systematic survey should be carried out by a qualified Inspector on the staff of the Public Health Department, housing schemes being prepared for execution in order of their relative urgency, conditional upon substantial financial assistance being forthcoming from the Treasury.

(3) The Council should house their Head Teachers, Police and Roadmen.

SALE OF FOOD AND DRUGS ACTS.

Rural Districts.—In this area the Acts continue to be administered by the County Police. The total number of samples taken and reported upon by the Public Analyst was 105, of which 58 were taken formally and 47 informally. The principal samples taken were milk 50, beer 16, and flour 7. Twenty other articles were sampled, the number of samples in no case exceeding three.

Of the 105 samples analysed, 12, or 11.4 per cent. proved not to be genuine. Of the 50 samples of milk, 16 were taken informally, and of these 4 proved not to be genuine, shewing deficiency of milk fat to the extent of 12, 13, 20 and 42 per cent. respectively.

Six of the 34 formal samples of fresh milk proved not to be genuine, the action taken being as follows :—

1. Contained 30 per cent. added water—fined £5, with 10/6 costs.
2. „ 15 „ „ „ „ — „ £25, with £2 6s. 8d. costs.
3. „ 36 „ „ „ „ — „ £50, including costs.
4. „ 11 „ „ „ „ — „ £25, including costs.
5. „ 12 „ „ „ „ — „ £1, with 10/6 costs.
6. Deficiency of 13 per cent. of milk fat. No proceedings.

Samples 3 and 4 were from the same vendor, from whom at the same time a sample was taken which proved to consist of 97 per cent. of water and 3 per cent. of milk. No penalty was imposed in this case, as the water was not intended for sale, but was used to adulterate milk from other cans at the time of serving. The total fines inflicted during the year amounted to £106, with £3 7s. 8d. added costs.

One formal sample of sago consisted entirely of tapioca ; the vendor was cautioned, but no proceedings taken.

Cambridge Borough.—Samples taken for analysis numbered 109, including 11 informal samples. The principal items were milk 84 and butter 11. Of the 11 other articles sampled, the number of samples in no case exceeded two.

The percentage of non-genuine samples, 7 in number, was 6.4, compared with 9.7 in 1916 and 1917, 8.4 in 1915, and 7.8 in 1914. Four vendors of 6 samples were prosecuted, convicted and fined, and three others were ordered to pay costs.

There were in addition three prosecutions for other offences, viz., refusal to sell, obstruction, and deposit of milk for sale on unsuitable premises ; all resulted in convictions and fines. The total amount of fines and costs for the year amounted to £41 6s.

Use of Preservatives.—In both urban and rural areas the Public Analyst examines for preservatives all samples taken under the Food and Drugs Acts which are likely to contain them. In the rural area a trace of boric acid was found in one sample of margarine, and in Cambridge Borough this preservative was found in 7 samples of butter in quantities varying from 0.35 to 0.5 per cent. No special action was taken in either area under the Milk and Cream Regulations.

UNSOULD FOOD.

In Cambridge Borough $4\frac{3}{4}$ tons of meat and fish were condemned, and 90 lbs. of beef in Linton Rural District.

MIDWIVES ACTS.

To facilitate the working of the maternity and child welfare scheme of the Borough of Cambridge, certain powers and duties were delegated to the Town Council during the year, prior to the passing of the Midwives Act, 1918. These include the reception of notifications from midwives and routine and special inspections of midwives, the services of the County Council's Inspector of Midwives being utilised for inspection purposes. The investigation of charges of malpractice, negligence and misconduct is reserved to the County Council, and suspension of midwives for prevention of the spread of infection is subject to agreement between the officers of the two Authorities.

During the year 140 routine visits of inspection were paid to midwives by the Inspector, 16 in Cambridge Borough, and 124 in the rural area. Several midwives, the majority

untrained, were cautioned for infringement of the rules of the Central Midwives Board, but no offence was reported requiring stronger action.

The following is the number of women who notified their intention to practise in the years specified :—

		<i>Trained.</i>	<i>Untrained.</i>	<i>Total.</i>
January, 1906 ..	..	24	42	66
„ 1918 ..	..	32	10	42
„ 1919 ..	..	34	9	43

Of the 43 midwives who notified in January, 1919, 9 reside in Cambridge (all trained), and 34 (25 trained, 9 untrained) live in the rural area. Including notifications received after January, there were 54 women (43 trained, 11 untrained) practising in the Administrative County during 1918. Since 1906, notifications from untrained women have decreased by 79 per cent. Midwifery practice by trained women has increased by 41 per cent., owing to the formation of District Nursing Associations, encouraged by training scholarships from the Education Committee. Two candidates were approved for scholarships in 1918. The administration of these grants has since been transferred to the Midwives Acts Committee.

Under the scheme of grants to District Nursing Associations for midwifery and maternity service, inaugurated by the Local Government Board, the County Nursing Association distributed £190 for services rendered during the year ending March 31st, 1919. Owing to the difficulty in starting new Associations during the war, no applications were made to the County Council in 1918 under their scheme of grants towards the establishment and maintenance of District Nurses who will undertake midwifery and maternity work in the County for three years. Since the end of the year, however, progress has been made, several nurse-midwives

having started work in newly organised districts, or being about to do so. Very useful service has been rendered by the County Nursing Association in this connection.

Midwives have returned the total of 937 cases attended by them during the year, whether as midwife or maternity nurse, against 900 in 1917. Of these, 282 (Cambridge 65, rural area 217) were attended in the latter capacity, as compared with 259 in 1917. Confinements conducted independently by midwives numbered 655, and the following figures shew the proportion of registered births thus attended :

	Births		Conducted by		Percentage	
	Registered.	1917	Midwives.	1917	of Midwives'	Cases.
Cambridge Borough	741	821	439	436	59	53
Rural Districts	1010	1064	202	219	20	21
Whole County	1751	1885	641	655	37	35

Of the 655 confinements conducted independently by midwives, 581, or 89 per cent., were conducted by trained women, leaving 74, or 11 per cent., conducted by untrained (though registered) women.

Apart from intention to practise and change of address, notifications received from midwives numbered 136, against 114 in 1917. They comprised medical help for mother or infant 96, stillbirths 18, death of mother 2, death of infant 2, laying out the dead 15, and liability to be a source of infection 3. No case of sepsis was notified, and enquiries into four cases of rise of temperature revealed no evidence of sepsis. The 96 cases in which medical aid was advised constituted 14.6 per cent. of midwifery cases attended independently. Of 8 cases of inflammation of the eyes of the infant enquired into, 3 required hospital treatment, the rest being slight in degree.

MATERNITY AND CHILD WELFARE.

Two schemes are in operation—one administered by the Town Council for Cambridge Borough, and the other by the County Council for the whole of the rural area of the County.

Cambridge Borough.—Under the Notification of Births Act, 1907, there were notified 762 births, or 92.8 per cent. of the total births registered, against 94.6 in 1917. Infant visitation was continued by a reduced staff of Health Visitors, 2,058 visits being paid to 579 infants, or 70 per cent. of the total births during the year. In addition, 1,072 visits were paid to 280 children born in 1917. The average number of visits paid to each of all infants visited during the year works out at 3.6 per infant. Visits paid to 156 children aged 1 to 5 years numbered 386.

Four hundred and nineteen infants (72 per cent.) were found to be breast fed, 104 (or 18 per cent.) partly breast fed, and 56 (or 10 per cent.) not breast fed at all. In only two instances were bottles with long tubes found in use. In 225 instances (nearly 39 per cent.) comforters were used continually, and in 75 instances occasionally.

At the four consultation centres 342 infants paid 1,965 visits, and 139 children aged 1 to 5 years paid 560 visits during the year. The centres are provided and managed by the Cambridge Association for Maternity and Child Welfare, the medical and health visiting staff being provided by the Corporation.

The District Nursing Association undertake for the Corporation the nursing of measles, whooping cough, ophthalmia neonatorum, epidemic diarrhoea, and influenza.

Ante-natal work is now engaging the attention of the Town Council; also in-patient treatment at Addenbrooke's Hospital for maternity cases, and for children under five

years is being arranged for, while provision at a convalescent home for mothers after confinement has been approved. Six suitable women have been trained and registered as home helps.

Rural Districts.—During the year 1,007 notifications were received under the Notification of Births Act, the number of births registered as having occurred during the same period being 1,064. After deducting 22 duplicates and 28 still-births, the proportion of live births notified was 90 per cent., the same proportion as in 1917.

Notifications by medical practitioners (604) decreased from 63.4 to 60 per cent., while those by midwives (332) increased from 28.7 to 33 per cent., and those by relatives (71) remained at 7 per cent. In addition, the Health Visitors and Workhouse Masters reported 39 births for visitation purposes, and complete monthly lists of registered births continued to be received from the Registrars.

Home visitation by the staffs of the County and District Nursing Associations was continued for advice with regard to expectant and nursing mothers, infants and young children up to school age. During the year, first visits were paid to 212 expectant mothers and to 936 infants, the average number of visits being 3.4 to each expectant mother and 7.4 to each infant.

Total visits paid were as follows :—

	<i>Expectant Mothers.</i>	<i>Up to Infants.</i>	<i>School Age.</i>	<i>Total.</i>
County Health Visitors	77	4128	5579	9781
District Nurses	.. 647	2949	3658	7254
	—	—	—	—
Total for 1918	724	7077	9237	17035
„ „ 1917	885	8864	5740	15489
	—	—	—	—

It will be observed that although there was a decrease in the number of visits under certain headings, the total amount of visitation work showed an appreciable increase, in spite of the fact that the central staff were entirely diverted to influenza duties for several weeks, and that the work of the District Nurses was also interrupted by the epidemic. It should be noted that in a scattered rural area, instruction which is more conveniently given at centres in urban districts, has to be afforded by the Health Visitors in the homes of the people.

Of 1,028 infants born between August 1st, 1917, and July 31st, 1918, 780 (or 76 per cent.) were entirely breast-fed for the first six months. In addition, 188 (or 18 per cent.) were breast and hand fed, some being entirely breast-fed for the first few months, while 60 (or 6 per cent.) were entirely hand fed. Comparison with the experience of Cambridge Borough shows that there is little difference in the method of infant feeding among the working classes in the urban and rural areas.

The proportion of rural infants using comforters was 26 per cent., compared with 24 per cent. in 1917, and 37 per cent. in 1916. Improvement is recorded as regards the long-tubed bottle, as only 2 per cent. of infants not entirely breast-fed used this insanitary contrivance, against 6 per cent. in 1917 and 11.5 per cent. in 1916. It is still found difficult to induce mothers to provide a cradle for the infant, as such provision was made for only 18 per cent. of those recorded, against 15 per cent. in 1917.

Under regulations issued by the Local Government Board, and by the Food Controller, fresh milk was supplied to expectant and nursing mothers, infants or children under five years in 33 families, and dried milk to 21 families, assistance which is much appreciated by the mothers. A

portion of the cost is contributed by the parents where this can reasonably be required.

During the year 11 infants and children under five years were treated at Addenbrooke's Hospital, and one mother was admitted for confinement. During 1919 the County Council have resolved to extend their scheme so as to include, among other matters, hospital treatment for normal confinements where home circumstances are prejudicial, the provision of home helps during confinement at home, residence in convalescent homes for mothers after confinement and children convalescent from illness, and accommodation for fatherless children with their mothers in suitable institutions. The Council will also make annual grants to maternity and child welfare centres, subject to specified conditions.

SCHOOLS.

As sanitary administration in the schools in the County Education area is dealt with in the Annual Report to the Education Committee, only a brief note is necessary.

The outstanding feature of the year was the epidemic of influenza which broke out in September and spread rapidly over the County, causing 34 deaths among children under 14. This outbreak is dealt with in the section on influenza.

Apart from influenza, and excluding contagious diseases of the skin, 23 special visits to schools by the School Medical Officer were necessitated by infectious disease, and 49 schools were closed on that officer's certificate. The School Nurses paid 1,733 home visits in connection with contagious and infectious disease. For the bacteriological diagnosis of diphtheria 199 swabs were taken by the medical staff from schools in 13 parishes, evidence of diphtheria being obtained from 12 swabs. Bacteriological examinations for tuberculosis were also made by the Tuberculosis Officer.

ISOLATION HOSPITALS.

The total admissions to each of the isolation hospitals were as follows:—Cambridge Borough 384 (including 247 military cases), Newmarket Rural (Exning) 41, Chesterton Rural (Oakington) 16, and Melbourn Rural (Royston) 10. Cases from certain Rural Districts were admitted to the Cambridge Isolation Hospital, notably 17 cases of diphtheria from Lolworth, Swavesey, and cases from Swavesey Rural District were also admitted to the Oakington Isolation Hospital.

A motor ambulance has been purchased by the Chesterton Rural District Council for removal of patients to hospital, and of infectious articles for disinfection.

The annual maintenance grants were approved for payment by the County Council in respect of the hospitals provided by the Cambridge Town Council, and by the Newmarket and Melbourn Rural District Councils. The total grants amounted to £824 8s. 1d. The sum of £117 2s. 11d. has also been paid to Cambridge towards excess loan for new buildings.

The position as regards isolation of cases of small-pox remains as in 1917, all the Rural District Councils having entered into an agreement with the Cambridge Town Council for the admission of cases to the small-pox hospital provided by that Authority, with the exception of the Chesterton Rural District Council, who have no special arrangement for dealing with their cases.

The proposed joint conference between the County Council and the Local Sanitary Authorities to consider what improvements could be effected in the isolation of cases of infectious disease was postponed owing to the war. This matter might now be revived with advantage.

VENEREAL DISEASES.

The County Council's Scheme for the diagnosis and treatment of venereal diseases has been in operation since January, 1917.

Treatment Centre.—Details of the treatment centre at Addenbrooke's Hospital have been given in my annual report for 1917, and these arrangements were continued during 1918. Any person is entitled to receive treatment free of charge, and can obtain particulars as to hours of attendance by application to the County or District Medical Officers of Health.

The work done at the treatment centre during 1918 is summarised in the following tables :—

TABLE I.

	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
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Under treatment on January 1,

1918..	14	17*	31*
New patients during 1918	..		54	88	142
Total under treatment ..	..		68	105	173
Venereal Disease ..	..		62	89	151
Not Venereal Disease ..	..		6	16	22
Left without completing treatment ..	..	..	18	25	43
Completed treatment ..	..		36	56	92
Under treatment at end of year			14	31	45
Out-patient attendances by patients who completed treatment ..	..	..	277	449	726
Total out-patient attendances ..			415	687	1102
Aggregate "in-patient days" ..		—	—	—	993

* One patient was not suffering from venereal disease.

TABLE II.

	<i>Cambs.</i>	<i>Counties.</i>	<i>Other</i>	<i>Total.</i>
New out-patients during 1918 ..	92	51	143	
Total out-patient attendances ..	805	297	1102	
Aggregate in-patient days ..	624	369	993	
Doses of salvarsan substitutes ..	272	161	433	

The number of new cases attending from this County was the same in both 1917 and 1918, viz., 92. A considerable improvement occurred in the number of attendances made, these increasing from 467 in 1917 to 805 in 1918. The total number of days during which in-patient beds were occupied by Cambridgeshire patients decreased from 906 in 1917 to 624 in 1918, partly due to change in policy by the medical staff. The proportion of patients who proved not to be suffering from venereal disease was the same in both years, viz., 24 per cent.

As requested by the Local Government Board in a circular letter, the Public Health Committee had under consideration the question of establishing smaller additional treatment centres and resolved not to take this step. One centre appears adequate for a town of the size of Cambridge, and the number of centres which would be required in the rural area, if one were to be within easy reach of all parishes, would be too large for such a scheme to be practicable under the present system of special clinics for the treatment of these diseases exclusively. The railway fare of patients coming from the rural parishes to the Cambridge centre is paid in whole or in part by the County Council on application, but such applications are seldom made.

Laboratory Diagnosis.—Under the Council's scheme, specimens are examined free of charge to medical practitioners and their patients at the University Laboratories. During the year 224 specimens were tested by the Wassermann reaction

for syphilis, and 228 were submitted for bacteriological examination. Of Wassermann specimens 137, and of bacteriological specimens 180 were sent from the treatment centre.

Propaganda.—This work continues to be carried out by the Cambridgeshire Branch of the National Council for Combating Venereal Disease, subsidised by the County Council. Literature has been distributed and lectures given both in Cambridge and in rural parishes by lecturers from the National Council and by local lecturers. In addition to dealing with the medical and social aspects of venereal disease, special attention has again been given to the best methods of the instruction of the young in sex hygiene.

MENTAL DEFICIENCY ACT.

Although the restrictions imposed by the Treasury continued throughout the year, the County Council made further provision for additional defective persons brought to their notice. These restrictions are now relaxed, and Local Authorities are urged to accelerate the ascertainment of defectives within their area, and to prepare schemes for the accommodation of those requiring to be maintained in institutions.

During the year 32 new cases were considered by the Committee for the Care of the Mentally Defective, 11 being notified as "neglected," 13 by the Local Education Authorities as "ineducable," 3 by Poor Law Guardians, and 5 by other bodies or persons. Three proved not subject to be dealt with under the Act. Of the remaining 29 cases, 8 were sent to Certified Institutions under order, 11 were referred to the Voluntary Association for supervision, 3 were referred to other Local Authorities, 1 was sent to a Certified Institution under an order of a Court, 2 were dealt with under the Lunacy Acts, and in 5 no action was taken. In addition, 2 cases

previously considered were now sent under order to Certified Institutions. Three cases, of whom 2 were in Certified Institutions, died during the year.

The value of the co-operation between the Statutory Committee and the Cambridgeshire Voluntary Association was further demonstrated during the year, and now that the Enquiry Officer is about to be released from military service continued co-operation is contemplated as regards staff, though with some modification of the scope of the duties undertaken by the Association for the Local Authority.

During the year the Statutory Committee presented a reconstruction report and scheme to the Council, of which the most prominent features were as follows :—

(a) The Statutory Committee should be responsible for the education of all children who, by reason of mental defect, should not be educated with other children, and should provide special residential schools, in some cases contracting with an Education Authority.

(b) They should also be responsible for Poor Law defectives with power to make use of existing workhouse buildings for the reception and classification of suitable cases.

(c) They should be empowered to establish colonies on the Cottage Home plan, with suitable indoor and outdoor work, combining the features of a school for children with provision for adults.

The County Council have no certified institution of their own. They reserve accommodation at the Royal Eastern Counties Institution, Colchester, and gain admission for other cases wherever practicable, often a very difficult matter. The transfer of the Littleton House Institution, on an extended scale, to Girton, affords opportunity for accommodating a limited number of trainable boys, but this will be far from

meeting the requirements for boys. One of the most urgent needs of the County is the provision of accommodation for feeble-minded young women—a class who constitute a danger both to themselves and to the community ; and this matter calls for serious consideration by the Statutory Committee now that more generous financial arrangements are contemplated by the Government Departments concerned.

METHODS OF CONTROL OF TUBERCULOSIS.

The County Council continued to provide supervision in the homes (but not treatment), dispensary treatment, and sanatorium accommodation, for persons suffering, or suspected to be suffering from tuberculosis. This provision was made for the uninsured, and, by agreement with the Insurance Committee, for the insured and for ex-service men.

Domiciliary and Dispensary.—During the year there were examined or treated at or in connection with the Dispensary (1, Camden Place, Regent Street, Cambridge) 496 new and 372 old cases. Cases requiring supervision in their homes were visited by the medical and nursing staff. The Tuberculosis Officer, Dr. P. C. Varrier Jones, continued to render services in connection with recruits for military service and with ex-service men.

The following figures indicate the volume of work done during 1918 :—

i. Visits of Patients to Dispensary :—

Insured Persons	784
School Children	418
Other Uninsured Persons	305

Total	1507

2. Visits to Homes:—

(a) *By Tuberculosis Officer* :—

			Borough.	Rural.	Total.
Insured	..	..	47	1026	1073
School Children	..	..	6	299	305
Other Un-insured	..	..	21	360	381
			<hr/>	<hr/>	<hr/>
		Total	74	1685	1759

(b) *By Dispensary Nurses* :—

Insured	..	..	642	437	1079
Un-insured	..	..	543	340	883
		Total	1185	777	1962

(c) *By General Nursing Staff* :—

Insured	..	..	—	337	337
Un-insured	..	..	—	289	289
		Total	—	626	626
		<hr/>	<hr/>	<hr/>	<hr/>
Grand total of home visits		1259	3088	4347	
,, ,, in 1917	..	1225	4036	5261	

The appreciable increase in the number of visits paid by the Tuberculosis Dispensary Nurses was more than counterbalanced by a decrease in visits paid by District Nurses, due partly to transfer of visits, and partly to interruption of the work by the influenza epidemic. The decrease in visits paid by the Tuberculosis Officer, owing to duties incurred in the development of the Tuberculosis Colony, will doubtless be remedied by the recent appointment of the Assistant

Tuberculosis Officer, Dr. W. Paton Philip. Specimens of sputum examined bacteriologically during the year numbered 128, against 141 in 1917. The tubercle bacillus was found in 26 specimens. X-ray examinations by the Tuberculosis Officer numbered 55.

Shelters.—Twelve additional open-air shelters, with bedding outfits, were purchased, bringing the number acquired up to 87. Several are worn out and have been disposed of.

Sanatorium Accommodation.—The County Council provide accommodation for insured and un-insured civilians, including children, and for ex-service men. In 1918 part of the cost of treatment of discharged soldiers and sailors was borne by the Council, but the whole cost is now defrayed by the Treasury.

The Insurance Committee are entitled to the use of 8 beds, but the actual provision made for insured persons considerably exceeds this. The following table shows that, in addition to 46 ex-soldiers, 45 insured persons were treated during the year, compared with 16 un-insured persons and 28 children.

	<i>In Sanat.</i>	<i>Dis-</i>	<i>Total</i>
	<i>Jan. 1st.</i>	<i>Admitted.</i>	<i>Treated.</i>
Men : Ex-Soldiers ..	14	32	38
.. Insured Civilians ..	4	25	14*
.. Un-insured ..	—	7	6
Women : Insured ..	2	14	9
.. Un-insured ..	2	7	5
Children	9	19	22
	—	—	—
Total 1918 ..	31	104	94
.. 1917 ..	14	82	64

* Includes one death.

The institutions to which patients were sent in 1918 were as follows:—

	<i>Male</i>				
	<i>Soldiers.</i>	<i>Civilians.</i>	<i>Women.</i>	<i>Children.</i>	<i>Total.</i>
Cambs. T. Colony	31	32	—	1	64
Bramblewood ..	—	—	11	3	14
Holt (Children's)	—	—	—	11	11
Maltings Farm ..	—	—	6	—	6
Hunstanton ..	—	—	—	4	4
Ipswich ..	—	—	1	—	1
Brompton ..	1	—	—	—	1
Margate ..	—	—	1	—	1
Mount Vernon ..	—	—	1	—	1
Ashover ..	—	—	1	—	1
	—	—	—	—	—
Total ..	32	32	21	19	104
	—	—	—	—	—

The County Council obtain practically all the accommodation for their male adult patients, in all stages of pulmonary tuberculosis, at the Cambridgeshire Tuberculosis Colony, Papworth Everard. As there are no beds for women and children in the County, vacancies have been obtained in the institutions shown in the preceding table, and there has not infrequently been unavoidable delay in admission owing to the limited accommodation. As these institutions are intended mainly for early cases, it is practically impossible to obtain beds for advanced cases, though some middle cases are admitted. Provision for advanced pulmonary cases in women and children, and for surgical cases of both sexes, is now the most pressing requirement.

Cambridgeshire Tuberculosis Colony.—Much public attention was directed to this institution by the visit of Her Majesty the Queen during 1918, and only a brief statement seems called for in this report. The institution, which was trans-

ferred to Papworth Hall from Bourn at the commencement of 1918, has now completed its first year of work. It is not under the management of the County Council, but the Council reserve beds for practically all their male patients for whom accommodation is sought.

Up to the present male patients only have been admitted. The pulmonary cases admitted during the year were classified as "early" 28, "middle" 61, and "advanced" 28. There were, in addition, 10 surgical cases admitted (not requiring active surgical interference). The average period of stay for Cambridgeshire cases is stated by the Medical Officer to the Colony (Dr. Varrier Jones) to be six months, and the maximum time during which a patient has been under continuous observation and treatment at the Colony has been two years, while ten patients have been under treatment for a year and a half.

A special reason for the existence of the Colony is the need for treatment and industrial training of the large body of ex-soldiers who are suffering from tuberculosis, contracted during or aggravated by military service, and a large proportion of the patients admitted are ex-service men. The training provided includes carpentry and joinery, cabinet making, boot repairing, tailoring, kitchen gardening, and pig and poultry keeping. Patients are also employed in motor driving, and at the electric power station.

During the year the Committee have acquired a house on an adjoining site suitable as a nucleus for a second colony, together with a farm of 200 acres, additional workshops and a number of cottages. While providing a sanatorium for early cases, and a hospital for the isolation and nursing of advanced cases, the special aim of the institution is to act as a training centre for patients in whom the permanent arrest of tubercular disease cannot be looked for under ordinary home conditions, and to induce them to settle down

to a useful working career on the estate and under the care of the institution. The acquisition of cottages is therefore of special importance in view of this policy.

Cambridgeshire Tuberculosis After-Care Association.—This Association, of which the Tuberculosis Officer is Hon. Medical Officer, assists tuberculous persons who have received sanatorium or other treatment, and especially members of Approved Societies or Friendly Societies, by supplementing their income, obtaining suitable employment and other forms of assistance. The principle underlying the work of the Association is the subsidising of such persons while doing work as part of their treatment, financial grants being paid equivalent to the sickness benefit forfeited. In this way a sufficient food supply is assured, and the patient is relieved of the prejudicial influence of mental anxiety. The majority of patients hitherto assisted are “early cases,” but arrangements are contemplated which will enable the more advanced cases to benefit by the Association’s activities.

The annual report for 1918 affords evidence of progress. The total number of cases dealt with since the commencement of the work in June, 1917, is 61 (38 in 1918). Grants were made to 40 persons, of whom 24 were members of Societies affiliated to the Association. Work was found for 16, and there are only two cases in which employment has not been obtained. Of the 40 cases in which grants had been made, 32 were now able to earn their own living, and only six were still in receipt of grants. The average weekly grant per case was 5s. 7d., and the total number of weeks paid for was 384, the average number of weeks per case being 12. It is claimed by the Association that not only have the patients been materially assisted, but the Societies have been relieved of the dead weight of permanent charges.

VITAL STATISTICS AND INCIDENCE OF INFECTIOUS DISEASE.

Population.—The Registrar General has furnished two estimates of the population for 1918—(a) for calculation of the death rate, an estimate of the civilian population, based mainly on the rationing returns to the Ministry of Food, and (b) for calculation of the birth rate, an estimate of the total population. The figures for this County are as follows :—

<i>Population.</i>		<i>For Birth</i>	<i>For Death</i>
		<i>Rate.</i>	<i>Rate.</i>
County of Cambridge	..	129455	115537
Cambridge Borough	..	58243	51981
Aggregate of Rural Districts		71212	63556

Change from 1917 :—

County of Cambridge	..	+207	-409
Cambridge Borough	..	-37	-301
Aggregate of Rural Districts		+244	-108

Populations of Individual Rural Districts :—

Chesterton	..	..	23571	21037
Caxton and Arrington	..		7395	6600
Linton	..	..	9942	8873
Melbourn	..	..	8491	7578
Newmarket	..	..	19302	17227
Swavesey	..	..	2511	2241
			—————	—————
			71212	63556

Birth Rate.—The statistics for 1918 furnished by the Registrar General are as follows :—

		<i>Birth rate</i>	
		<i>Births.</i>	<i>per 1000 living.</i>
Administrative County	..	1885	14.5
Cambridge Borough	..	821	14.0
Rural Districts	..	1064	14.9

The following figures show the decline in births since 1914, the last year uninfluenced by the War :—

	Number of Births.			Birth Rate.			<i>Total</i>
	<i>Boro.</i>	<i>Rural.</i>	<i>Total.</i>	<i>Boro.</i>	<i>Rural.</i>		
1914	..	996	1393	2389	..	17.4	18.3
1915	..	997	1315	2312	..	17.4	18.9
1916	..	991	1259	2250	..	17.4	17.5
1917	..	741	1010	1751	..	12.7	14.2
1918	..	821	1064	1885	..	14.0	14.9
							14.5

Decline from

1914 to 1918 175 329 504 .. 3.4 4.2 3.8

Compared with the births in 1914, there has been a total loss of 1,358 births in the Administrative County during the four War Years. Although the birth-rate was necessarily still much below normal in 1918, the figures show a tendency to recovery from the heavy drop in the birthrate which occurred in 1917. This is the case as regards both the urban and rural areas, but especially the urban. The increase of net births on the figures for 1917 was 134 for the whole County—80 for Cambridge Borough and 54 for the rural area. The rates for the Rural Districts, from highest to lowest were :—Newmarket, 17.9 (346 births); Linton, 16.0 (159); Melbourn, 15.7 (133); Swavesey, 15.5 (39); Caxton and Arrington, 13.2 (106); and Chesterton, 11.9 (281).

There were 159 illegitimate births in the Administrative County, 63 in Cambridge, 96 in the Rural Districts, compared with 57 in Cambridge, 66 in the Rural Districts, and 123 total in 1917. Owing to the increase in total births, the increase in the proportion of illegitimate births to total is not so great as these figures would suggest. Calculated as a percentage of total births, the proportion of illegitimate births was 7.7 in Cambridge, 9.0 in the rural area, and 8.4 in the Administrative County, against 7.7, 6.5 and 7.0 per cent.

respectively in 1917. The increase of illegitimacy was therefore confined entirely to the rural area, where illegitimate births showed an increase of 2.5 per cent. of the total births.

The proportion of still-births notified to total births registered was as follows:—

Borough of Cambridge, 23 still-births, or 2.8 per cent.
 Rural Area 28 .., .. 2.7 .., ..
 Whole County .. 51 .., .. 2.7 .., ..

These percentages differ but slightly from those of the previous year.

Death-Rate from all Causes.—The statistics relate to the civilian population only. After allowing for deaths away from the usual place of residence, the nett death-rate for the whole County was 15.6 per 1,000, against 13.6 in 1917. The rates for the urban and rural areas were 14.8 and 16.3 respectively, increases of 2.7 and 1.4 per 1,000 on the mortality for 1917. The death-rate for Cambridge was 3.4 below that for the Great Towns (18.2); there is again no comparative figure available for the rural area.

The cause of the increased mortality was the epidemic of influenza. The total deaths from all causes in the whole County was 1,805 (Cambridge 770, Rural 1,035), being 224 more than in 1917. The number of deaths from influenza was 310, being 286 more than in 1917. Had this excessive influenza mortality not occurred, the death-rate from all causes would have shown a reduction on the previous year. In association with the influenza epidemic there was also naturally some increase in deaths attributed to pulmonary tuberculosis, bronchitis and pneumonia. Whooping cough and "congenital debility" also showed a decided increase; while there was an appreciable decrease in deaths from cancer and diarrhoea. No death was registered as due to alcoholism, while deaths from cirrhosis of the liver, attributable to

chronic alcoholism, numbered 10, against 8 in 1917 and 14 in 1916.

Infant Mortality.—The number of deaths under one year, 118 (urban 54, rural 64), was 9 more than in 1917, being in the proportion of 63 deaths per 1,000 *births*. The corresponding rate for Cambridge was 66, against 106 for the Great Towns, and that for the rural area did not exceed 60 per 1,000 *births*. Omitting the year 1914 from the comparison, as being partly under war conditions, the average annual number of deaths per 1,000 *births* during the six pre-war years 1908—1913, viz., 80, fell to 72 during the four war years 1915—1918, the rate for 1918 being 6 per 1,000 below the average of that period.

After allowing for the increased number of births as compared with 1917, the principal features of the year were an increase in deaths due to congenital debility and whooping cough, and a decrease in mortality attributed to bronchitis. A satisfactory feature was the continued low mortality from diarrhoea, only 4 deaths (2 urban, 2 rural) among children under two years being returned under this heading.

The mortality among illegitimate infants, compared with that among legitimate infants, is shown by the following statement of deaths (approximate) per 1,000 *births*.

		<i>Legitimate.</i>	<i>Illegitimate.</i>
Cambridge Borough ..	..	61	127
Rural Districts ..	..	57	94
Whole County ..	..	59	107

The actual numbers of deaths of illegitimate infants were 8 in Cambridge Borough and 9 in the Rural Districts.

Infectious Diseases.—Favourable features were the small number of notifications of enteric and puerperal fevers, the reduction of the prevalence of scarlet fever, and the very low death-rate from diarrhoeal diseases. On the other hand,

there was an increase in the number of notified cases of diphtheria and measles, and in the mortality caused by whooping cough. Deaths from pulmonary tuberculosis also showed an increase. The most serious feature of the year was the influenza epidemic, which caused nearly one-sixth of the deaths from all causes.

Small-pox.—No case of small-pox was notified as having occurred in the Administrative County, but persons who have been in contact with cases elsewhere have required supervision. In the present circumstances of neglect of vaccination, this is a source of much anxiety to the administrative staffs. Dr. Armistead estimates that about half the children born in the Linton and Newmarket Rural Districts in recent years are unvaccinated, while statistics furnished to Dr. Laird by the Vaccination Officer for the Old Borough of Cambridge, for the first half of 1918, show that, after excluding those who died unvaccinated, the proportion of infants successfully vaccinated was 29.18 per cent., against 30.8 for 1917.

It seems almost a hopeless task to induce parents to secure protection against small-pox for their children by the one practically sure method, and it would appear that nothing short of a serious outbreak of small-pox is likely to alter the present attitude of neglect assumed by the majority of parents. In the meantime the Medical Officer of Health is empowered by the Public Health (Small-pox Prevention) Regulations of 1917 to vaccinate or re-vaccinate willing contacts, free of charge, where a case of small-pox has made its appearance. This is a step in the right direction towards placing this important public health measure in the hands of the Public Health Authorities.

Scarlet Fever.—Notifications of scarlet fever again showed a decline on those for the previous year, only 84 notifications being received from the whole County area—18 from Cambridge Borough and 66 from the Rural Districts. The noti-

fication rate was 0.73 per 1,000 of the population. The largest number of notifications from any Sanitary District was 37 from the Newmarket Rural District, of which 25 were from the parish of Burwell. The only death from scarlet fever occurred in Newmarket Rural District.

The number of cases removed to Isolation Hospital was 67, or 80 per cent. of the total of notifications. The only district from which none of the notified cases were removed to hospital was the Linton Rural District. In Chesterton Rural District 11 out of 14 notified cases were removed to hospital, and Dr. Coombes draws attention to the fact that although the disease appeared in ten households, in nine separate parishes, it was (with the exception of one family from which five cases were notified at the same time) in each case confined to the original person attacked.

Dr. Laird again notes that no return cases have occurred in Cambridge Borough, after discharge of a case from hospital, since 1916. He is disposed to think that the explanation may lie in diminished virulence or in increased resistance on the part of the community. An additional factor may be the change in the procedure on dismissal of cases from hospital, an apparent consequence of which is that nasal catarrhs are now rarely met with among children after their return home.

Diphtheria.—The number of notified cases, which fell from 145 in 1916 to 56 in 1917, rose to 101 in 1918, yielding a sickness rate of 0.87 cases per 1,000 living. In Cambridge Borough 49 cases were notified, against 30 in 1917, and in the rural area 52, against 28 in 1917. Although the number of notifications was nearly doubled, the number of deaths remained the same as in 1917, viz., 7—(Cambridge 5, Rural Districts 2). The mortality rate for the whole County was 0.06 per 1,000 living, less than half of that for England and Wales (0.14). The rate for Cambridge Borough was 0.09,

compared with 0.15 for Great Towns, while that for the rural area, 0.03 per 1,000, was only one-third of that for Cambridge.

In Cambridge about two-thirds of the cases occurred in Chesterton; the majority were children attending one school, and infection was traced to a family which included three "carrier" cases. In Chesterton Rural District one outbreak, if not two, was similarly caused by a "carrier" case. In the Swavesey Rural District a serious outbreak occurred at Lolworth, mainly among school children, certain of whom had suffered from "sore throat." Swabs taken by the school medical staff showed evidence of diphtheria. The prompt and vigorous action of Dr. Grove, the District Medical Officer of Health, secured the isolation of 17 cases in the Cambridge Isolation Hospital, a step which resulted in the recovery of all the patients, several of whom had a very severe attack.

Enteric Fever.—Eleven cases were notified, against 9 in 1917, the notification rate being 0.09 per 1,000 living. Of 5 Cambridge notifications, 1 proved to be a case of tuberculosis, and 3 of the 4 genuine cases were imported from outside the County. Of 4 notified cases in Chesterton Rural District, one was imported from London, one occurred in the County Mental Hospital, and one was a case of paratyphoid. The only other case in the rural area was notified from the Newmarket Rural District.

There were 3 deaths, 1 in Cambridge, yielding a mortality rate of 0.02, identical with that for the Great Towns, and 2 in the rural area, yielding a mortality rate of 0.03 per 1,000. The mortality rate for the Administrative County was approximately 0.03, the same as for England and Wales.

Erysipelas.—There were 44 notified cases with 1 death, against 41 notifications in 1917. The sickness rate was 0.38 per 1,000.

Puerperal Fever.—There were 4 notified cases, 1 in Cambridge and 3 in the Rural Districts. The 3 deaths occurred in the Rural Districts, yielding a mortality rate of nearly 0.05 per 1,000 living for the rural area, and 0.03 per 1,000 for the whole County.

Diarrhœal Diseases.—The mortality from this cause was very low, only 4 deaths occurring, of which 2 were in Cambridge Borough and 2 in the Rural Districts (Caxton and Newmarket). The death-rates per 1,000 *births* were 2.12 for the whole County (England and Wales 10.99), 2.43 for Cambridge (14.46 for the Great Towns), and only 1.88 for the rural area. This disease is now included among those for which the County and Town Councils have arranged to provide visitation and nursing.

Whooping Cough.—This disease, from which there were no deaths in 1917, was recorded to have caused 17 deaths in 1918, of which 10 occurred in Cambridge Borough and 7 in the Rural Districts. The mortality rates were 0.15 for the Administrative County (England and Wales 0.29), 0.19 for Cambridge Borough (Great Towns 0.34), and 0.11 for the rural area.

Measles.—The number of notifications of measles and German measles was 754. Separate figures for both diseases are not given for all Districts, but in those Districts for which they are furnished, measles constitutes 77 per cent. of the notifications, and German measles 23 per cent. As Dr. Laird points out, the cases notified by parents and teachers probably include a fair number of German measles, which is not a fatal disease.

Mortality from measles was low, not more than 4 deaths occurring—2 in Cambridge and 2 in the Rural Districts. The mortality rates per 1,000 living were 0.03 for the whole County (England and Wales 0.28), 0.04 for Cambridge (Great Towns 0.36), and 0.03 for the Rural Districts.

As this disease causes the loss of thousands of child lives annually in the country, the Cambridge Town Council, and for the rural area, the County Council, have approved arrangements for visitation, and where necessary, nursing. In Cambridge, 27 cases were nursed by the staff of the District Nursing Association in 1918. In the rural area, 223 cases were visited and advice given, but it has not yet been possible to engage emergency nurses for actual sick nursing, owing to the continued shortage.

Acute Poliomyelitis (Infantile Paralysis).—Only 1 notification was received, from Cambridge Borough, and there were no deaths recorded.

Cerebro-Spinal Meningitis.—Five notifications were received, of which 2 were from Cambridge, 2 from Linton Rural District and 1 from Chesterton Rural District, from which District one other unnotified case was removed to hospital. Both of the Chesterton cases died in hospital; infection in one of these was attributed to the father who was home on leave from France. Both Linton Rural cases were admitted to the Cambridge Isolation Hospital and recovered.

Pulmonary Tuberculosis.—The total number of civilian primary notifications received (Form A) was 177, or 1.53 per 1,000 of the population, compared with 243, or 2.09 per 1,000, in 1917. After deducting duplicates, the number of first notifications was 170, compared with 231 in 1917, yielding a notification rate of 1.47 per 1,000 living, against 2.00 in 1917. As notification of tuberculosis is still far from being fully carried out, this must not be taken as an accurate estimate of the proportion of the population found during the year to be attacked.

The number of deaths registered from this cause was 158, against 131 in 1917. The increased mortality occurred

in Cambridge Borough, where there were 76 deaths compared with 50 in 1917. The number of deaths registered in the rural area was practically the same as in the preceding year, viz., 79, compared with 81. The mortality rates per 1,000 living were :—Administrative County 1.34 (1.13 in 1917), Cambridge Borough 1.46 (0.96 in 1917), and Rural Districts 1.24 (1.27 in 1917).

Tuberculosis of Other Organs.—There was a decrease in the number of notifications received during the year, viz., 74, against 107 in 1917, yielding a notification rate of 0.64 per 1,000 living, compared with 0.92. There were 3 duplicate notifications. The deaths numbered 14, compared with 36 in 1917; 5 occurred in Cambridge, and 9 in the Rural Districts. The mortality rates per 1,000 living were as follows:—Administrative County 0.12 (0.31 in 1917), Cambridge Borough 0.09 (0.38 in 1917), and Rural Districts 0.14 (0.25 in 1917).

It will thus be seen that whereas the registered mortality from tuberculosis of the lungs increased in Cambridge during the year, that from tuberculosis of other organs showed a decrease in both urban and rural areas. The total registered mortality for tuberculosis of all organs was practically identical in both years, 169 deaths having been recorded in 1918, against 167 in 1917.

Pneumonia.—Deaths recorded from this cause numbered 89, of which 54 belong to Cambridge and 35 to the Rural Districts. The mortality rate for the town was nearly double that for the rural area, viz., 1.04 per 1,000 living, against 0.55, the rate for the whole County being 0.77 per 1,000. This is an unusual feature, as the mortality attributed to pneumonia in this County is usually higher in the rural area than in the town.

Since March 1st, 1919, acute primary pneumonia and acute influenzal pneumonia have been compulsorily notifiable, the duty of notification being placed upon the medical practitioners. The Local Authority are empowered to provide medical assistance, including nursing.

Ophthalmia Neonatorum.—There were 8 notifications, 6 in Cambridge Borough and 2 in the Rural Districts, against a total of 19 in 1917, and 24 in 1916. Of 8 infants notified under the Midwives Act as requiring medical help for inflammation of the eyes, 3 cases were sufficiently severe to require hospital treatment.

Cancer.—There were 177 deaths attributed to cancer, against 198 in 1917. Of these, 74 occurred in Cambridge and 103 in the rural area. The proportion of recorded deaths per 1,000 living was 1.53 in the Administrative County (1.71 in 1917), 1.42 in Cambridge (1.62 in 1917), and 1.62 in the Rural Districts (1.77 in 1917). The corresponding crude rate for England and Wales for 1917, the latest year for which this information is available, was 1.21 per 1,000 living.

Taking the mortality rates at their face value, it would appear that the proportion of the population dying from this cause, which increased steadily over a considerable period up to 1915, remained practically stationary from 1915 to 1917, and showed an appreciable decline in 1918. It would, however, be unwise at present to draw optimistic conclusions from these figures, as they are based on wholly abnormal conditions as to the composition of the population during the War. In his most recently published analysis of cancer mortality, the Registrar-General adduces reasons for supposing that the recorded increase of cancer mortality is a true increase, and not an apparent one due to such factors as better diagnosis and death certification, or the greater length of life now enjoyed by the population as a whole.

THE INFLUENZA EPIDEMIC.

Reports have been furnished by the Medical Officers of Health for Cambridge and for four of the six Rural Districts. Much information was also gained through the school medical services.

Onset and Course of Epidemic.—The outbreak commenced in Cambridge about September 23rd, when the first school notifications were received. Prior to this date, influenza had appeared in June among the cadets billeted in the Colleges, and a few secondary cases occurred among civilians, but there was no general spread of infection. Re-introduction by service men seems possible.

Evidence of the invasion of the rural area came to hand from school sources about the end of the second week in October, and within ten days it had become necessary to close the Public Elementary Schools in 12 parishes. By November 2nd there were only 13 out of 145 rural school departments from which cases of influenza or epidemic catarrh had not been notified through Head Teachers.

Judging by mortality returns and information received from schools, the epidemic was at its height during the first half of November, and rapidly subsided during the latter half of the month, though a few deaths continued to be recorded throughout December.

As Cambridge is the market town for the rest of the County, which is purely agricultural, extension of the epidemic to the rural area was inevitable, and it will be noted that cases were not reported from these districts till from two to three weeks after the onset in the town. The rural parishes first affected were scattered about the County, pointing to infection derived from a common centre, though no doubt

subsequent spread, which was rapid, occurred from village to village. Dr. Dudley notes that infection was introduced into certain parishes in Caxton and Arrington Rural District through school boys and cadets from Cambridge. The carriers' carts, which run on market days, obviously afford opportunity for spread of infection.

A further outbreak occurred in February, 1919, both in Cambridge and the Rural Districts, attended by a lower mortality. It necessitated the closure of 89 rural schools in 80 parishes, and, judging from school closure certificates, was of shorter duration than the 1918 outbreak. Of the 89 schools closed in 1919, 12 were closed for a short period only during the 1918 outbreak, while 77 had been closed for longer periods. A possible inference is that the majority of the parishes attacked in 1919 had suffered somewhat severely in 1918.

Age and Sex Distribution of Mortality.—The total number of deaths in the Administrative County during the year was 310, yielding a mortality rate of 2.68 per 1000 living. Of these, 124, or 2.37 per 1000, occurred in Cambridge, and 186, or 2.91 per 1000, in the Rural Districts. It will be noticed that the mortality rate was higher in the rural area than in the urban centre of the County. Mortality was exceptionally high in several adjoining large villages in the Newmarket Rural District, viz., Soham with 37 deaths (7.9 per 1000), Burwell 14 deaths (6.5), Fordham 11 deaths (7.8), and Wicken 7 deaths (10.2).

So few civilian deaths were caused by influenza in the first nine months of the year that the following table of deaths which occurred during the whole year, analysed for age and sex, practically represents the mortality during the epidemic.

	Rural					
	Cambridge.		Districts.		Whole County.	
	Male.	Female.	Male.	Female.	Male	Female.
0—1	1	—	1	2	2	2
1—2	—	1	1	1	1	2
2—5	1	2	6	7	7	9
5—15	4	9	17	12	21	21
15—25	12	21	17	20	29	41
25—45	17	36	32	32	49	68
45—65	5	9	12	8	17	17
65 and upwards	3	3	9	9	12	12
—	—	—	—	—	—	—
All Ages.	43	81	95	91	138	172
—	—	—	—	—	—	—

It will be observed that while the total deaths among each sex were equal in the rural districts, there was a marked excess of female deaths in Cambridge, especially during the most active working period of 15 to 45 years. No doubt this was partly due to the large proportion of females in the population ; but the fact that a large number of women and girls were still doing the work of men in places of business, must have contributed to the spread of infection among them.

Weekly Mortality.—The number of deaths during each week of the epidemic is available for all Sanitary Districts except Melbourn and Swavesey Rural Districts. With these exceptions, and excluding the few deaths which occurred in the first three quarters of the year, the following table shows the number of deaths occurring during each week of the epidemic :—

<i>Week ending</i>		<i>Cambridge.</i>	<i>Rural Districts.</i>	<i>Whole County.</i>
Oct. 19th	..	4	—	4
,, 26th	..	14	1	15
Nov. 2nd	..	37	38	75
,, 9th	..	35	40	75
,, 16th	..	12	36	48
,, 23rd	..	12	17	29
,, 30th	..	3	13	16
Dec. 7th	..	2	8	10
,, 14th	..	—	3	3
,, 21st	..	1	4	5
,, 28th	..	—	2	2
		—	—	—
	Total	120	162	282
		—	—	—

It will be noted that the mortality in the rural area commenced later and declined more slowly than in Cambridge. This is consistent with the view that infection spread from the urban centre of the County to the Rural Districts.

Of 279 of the 310 fatal cases, 208, or 75 per cent., were certified to be complicated by some form of pneumonia.

Incubation Period.—The reports for Cambridge and for the Caxton and Arrington Rural District give two to three days as the usual incubation period. Dr. Dudley (Caxton and Arrington) considers that in some cases incubation occupied less than 48 hours, and Dr. Laird gives an instance where symptoms appeared 24 hours after exposure to a case of influenzal pneumonia in Addenbrooke's Hospital, Cambridge.

Duration of Infection.—In the absence of exact knowledge of the bacteriology of influenza, it is difficult to state accurately the duration of infection. Dr. Laird states that at Adden-

brooke's Hospital, Cambridge, when the pressure on their accommodation was greatest, cases of influenza were transferred to the general wards after two days of normal temperature, and no secondary cases followed. These cases would, however, be under stricter supervision than in their homes, and some, no doubt, were still in bed, and thus less likely to infect others.

Administrative Action.—The measures adopted were as follows :—

A. IN CAMBRIDGE BOROUGH. (1) The local newspapers published precautionary advice, and the information thus gained would appear to have resulted in precautions being taken, chiefly in the avoidance of public gatherings, as at cinemas, etc.

(2) All public elementary and secondary schools were closed, also evening schools and Sunday schools.

(3) Places of public entertainment were placed out of bounds by the military authorities, and the proprietors excluded all children.

(4) Cases were admitted to Addenbrooke's Hospital and to the Cambridge Union Infirmary.

(5) The District Nursing Association nursed 137 cases in their homes.

(6) Domestic assistance was given in several cases by the Home Helps, who are registered with the Local Authority.

B. IN THE RURAL DISTRICTS. (1) Precautionary leaflets, provided by the County Council, were distributed in all rural parishes mainly through the school children and Health Visitors.

(2) After the first few days of the epidemic, the public elementary schools were closed at once, by previous arrangement, directly influenza made its appearance in the parish,

all schools eventually being closed. The suspension of Evening Classes and the closure of Sunday Schools was also advised. It is difficult to estimate the effect of this measure, but it may be noted that in 132 out of 145 public elementary school departments extension of closure eventually proved necessary.

(3) Some cases were admitted to workhouse hospitals. The Chesterton Rural District Council agreed to use their Isolation Hospital, if necessary, but I am not aware of any cases having been admitted.

(4) Many cases were nursed by District Nurses in the course of their duties, and help was given in some parishes by V.A.D. Nurses. The County Health Visitors were diverted from their usual duties to the visitation and nursing of influenza cases in their homes.

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